

What is claimed is:

1. A focus detecting device for a microscope, comprising:
a light source;
a partially light-introducing member that causes only a part of a light beam from the light source to enter the microscope;
a light-condensing optical system that condenses a light beam reflected from a sample surface of the microscope;
a photodetector disposed at a light convergence position of the light-condensing optical system and having at least two light-receiving sections, the photodetector being disposed on an exit side of the light-condensing optical system; and
a multi-beam producing member disposed in a path of light from the microscope to the photodetector and letting a plurality of light beams emerge, the plurality of light beams being received by the photodetector.
2. A focus detecting device for a microscope according to claim 1, wherein the partially light-introducing member is a light-intercepting member that intercepts a beam of light from the light source.
3. A focus detecting device for a microscope according to claim 2, wherein the multi-beam producing member is a first crystal plate.
4. A focus detecting device for a microscope according to claim 3, further comprising a quarter-wave plate disposed on an exit side of the first crystal plate.
5. A focus detecting device for a microscope according to claim 4, further comprising a second crystal plate disposed on an exit side of the quarter-wave plate.

6. A focus detecting device for a microscope according to claim 5, further comprising a diffuser disposed on an exit side of the light source, to diffuse rays from the light source.

7. A focus detecting device for a microscope according to claim 2, wherein the light source is constructed as a surface-illuminant laser diode having a plurality of radiant points so that arrangement of the multi-beam producing member is dispensable.

8. A focus detecting device for a microscope according to claim 7, further comprising at least one of a diffraction grating and a crystal plate as the multi-beam producing member.

9. A focus detecting device for a microscope according to claim 7, further comprising a diffuser disposed on an exit side of the light source, to diffuse rays from the light source.

10. A focus detecting device for a microscope according to claim 1, wherein the partially light-introducing member is formed by the light source arranged to be decentered from an optical axis of the microscope.

11. A focus detecting device for a microscope, comprising:
a beam-splitting member having a surface from which or through which an incident light beam is reflected or transmitted and is disposed at an intersection of an optical axis of a first path of light and an optical axis of a second path of light;
a light source disposed in the first path of light;
a multi-beam producing member disposed between the light source and a sample, to

cause a plurality of light beams to emerge therefrom;

a light-condensing optical system disposed in the second path of light on an exit side of the beam-splitting member, to condense the plurality of light beams passing the beam-splitting member;

a photodetector disposed in the second path of light at a light convergence position of the light-condensing optical system and provided with at least two light-receiving sections, the photodetector being disposed on an exit side of the light-condensing optical system; and

a light-intercepting member disposed between the light source and the photodetector, to intercept a part of light beams passing there.

12. A focus detecting device for a microscope according to claim 11, wherein the light-intercepting member is disposed between the beam-splitting member and the light-condensing optical system.

13. A focus detecting device for a microscope according to claim 11, wherein the multi-beam producing member is disposed between the beam-splitting member and an objective lens of the microscope.